

CLAIMS

What is claimed is:

1. The cam bolt assembly for using in a vehicle's suspension system to adjust the vehicle's wheel alignment comprising:

a threaded fastener defining a pair of longitudinal channels;

first cam plate coupled to the threaded fastener;

second cam plate defining an aperture mated to the pair of longitudinal channels; and

wherein at least one of the first or second cam plates has an arcuate slot configured to mate with a component of the suspension system.

2. The cam bolt assembly according to claim 1 wherein the first and second cam plates comprise an arcuate slot.

3. The cam bolt assembly according to claim 1 wherein the threaded fastener has a t-shaped cross section.

4. The cam bolt assembly according to claim 1 wherein the threaded fastener has a knurl portion configured to mate with the first cam plate.

5. The cam bolt assembly according to claim 1 wherein the channel defines a pair of bearing surfaces which mate with a corresponding interior bearing surfaces within the aperture.
6. The cam bolt assembly according to claim 1 wherein the second cam plate and the channels defines an interface capable of withstanding 150 nm of torque.
7. The cam bolt assembly according to claim 1 wherein the threaded fastener has a diameter of about 14 mm.
8. The cam bolt assembly according to claim 7 wherein the pair of channels defines a first portion having a thickness of about 8 mm.
9. The cam bolt assembly according to claim 8 wherein the pair of channels define an inner radius of 2.0 mm.
10. The cam bolt assembly according to claim 7 wherein the pair of channels defines a second portion has a height of about 8 mm.
11. The cam bolt assembly according to claim 7 wherein the pair of channels defines inner radius of about 2.0 mm.

12. The cam bolt assembly according to claim 7 wherein the pair of channels are defined through threads of the threaded fastener into a central core portion the threaded fastener.

13. The cam bolt assembly according to claim 7 wherein the threaded fastener comprises a shoulder portion.

14. The cam bolt assembly according to claim 7 wherein the bolt has a bolt strength class of 10.9.

15. An automotive vehicle suspension component used to adjust the vehicles wheel alignment comprising:

a fastener having a first threaded portion defining a pair of longitudinal channels along a portion of the threaded portion, and a non-threaded portion;

first cam plate coupled to the non-threaded portion;

second cam plate defining an aperture mated to the pair of longitudinal channels; and

wherein at least one of the first or second cam plate has an arcuate slot configured to mate with a component of the suspension system.

16. The suspension component according to claim 15 wherein the first and second cam plates comprise an arcuate slot.

17. The suspension component according to claim 15 wherein the threaded fastener has a t-shaped cross section.

18. The suspension component according to claim 15 wherein the non-threaded portion has a knurl portion configured to mate with the first cam bolt.

19. The suspension component according to claim 15 wherein the channel defines a pair of non-threaded bearing surfaces which mate with corresponding interior bearing surfaces within the aperture.

20. The suspension component according to claim 15 wherein the threaded fastener has a bolt strength class of greater than 10.9.

21. The suspension component according to claim 15 wherein the longitudinal channel is partially defined by the non-threaded portion.